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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,296	11/17/2003	Steven M. Weinzierl	16623	5217
24113	7590	03/17/2006	EXAMINER	
PATTERSON, THUENTE, SKAAR & CHRISTENSEN, P.A.			LUM VANNUCCI, LEE SIN YEE	
4800 IDS CENTER			ART UNIT	PAPER NUMBER
80 SOUTH 8TH STREET			3611	
MINNEAPOLIS, MN 55402-2100				

DATE MAILED: 03/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/715,296	WEINZIERL, STEVEN M.	
	Examiner	Art Unit	
	Lee Lum	3611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 14, 16-19, 21 and 23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-9, 16 and 23 is/are allowed.
- 6) ☒ Claim(s) 10-12, 14, 17-19, 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. An Amendment was filed 1/30/06 in which Claims 13 and 20 were also cancelled.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10-12, 14, 17-19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Emmerling 4317439 in view of Tholen 4660532.

Emmerling discloses an air-charging system, depicted at least in fig 1, for use* with a snowmobile* engine comprising

First heat exchanger 44 disposed to cool an air charge via (inherent) latent heat; and in "in thermal communication** with a mass of snow/ice", such that (inherent) vaporization also occurs, and, a volume of ram air is moved over** this heat exchanger (inherent), and,

Second heat exchanger 46 cooperating with the first heat exchanger, including a liquid reservoir 56 (i.e., cooling heat exchanger holding a volume of liquid) for convective cooling.

The reference also discloses a method of cooling an air charge in an air charging system, the steps derived from the structure and/or means discussed above.

The reference discloses the elements as provided above, but does not specify the first heat exchanger as being formed of thermally-conductive material, and mounted to a vehicle component of the same material. Tholen shows these details with

Art Unit: 3611

Heat exchanger 3 being made of this type of material, as disclosed in c4, ln 38-40, and mounted to manifold 5, the manifold also known to be made of a thermally-conductive material. It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this type of material for the heat exchanger, and mounting structure, as shown in Tholen, to further cool ram air via conduction, thus increasing the efficiency of the air cooling system. This material, and mounting arrangement (as one example), are extremely well-known for this objective.

* This language has minimal effect on patentability, and in light of the fact that the invention may clearly be incorporated into various types of vehicles.

** Although the reference does not explicitly disclose the location of the heat exchangers, it is extremely well-known that an air charging system requires that the air charge/ram air be introduced through an opening in the chassis or frame of the vehicle. Also well-known in such a system is that at least one heat exchanger is included to cool the air charge. Therefore, at least the first heat exchanger would be in "thermal communication with snow/ice", because snow/ice also enters this heat exchanger. Thus melting and vaporization would inherently occur.

3. **Claims 1-9, 16 and 23 are allowable** because prior art does not disclose a snowmobile comprising, *inter alia*, a track tunnel opening with an intercooler opening and a wall located the front end of the tunnel and opening defining a snow/ice retention area.

4. RESPONSE TO REMARKS

Examiner has provided modified rejections for some claims, as necessitated by amendments. Claims 13 and 20, now cancelled, have been reconsidered as not containing allowable subject matter, thus Claims 10 and 17 remain rejected. Examiner sincerely apologizes for this inconvenience.

Applicant is asked to note allowable subject matter.

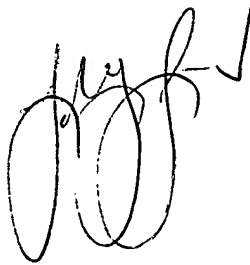
Art Unit: 3611

5. Communication with USPTO/Examiner

Any inquiry concerning this communication, or others, should be directed to Ms. Lum at 571 272-6649, M-F, 9-5. If attempts to reach the examiner are unsuccessful, her supervisor, Ms. Lesley Morris is at 571 272-6651. Our fax number is 571 272-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for unpublished applications: private PAIR only, for published applications: private or public PAIR. For more information re PAIR: <http://pair-direct.uspto.gov>. Questions re private PAIR: contact the Electronic Business Center (EBC) at 866 217-9197.

Ms. Lee S. Lum
Examiner
3/13/06

A handwritten signature in black ink, appearing to be 'Lum', with a checkmark at the end.